





## 1. INFORMATION ABOUT THE COURSE

|              |                          |       |          |        |    |               |       |
|--------------|--------------------------|-------|----------|--------|----|---------------|-------|
| Course Code: | PTRL5009                 | Term: | T1, 2020 | Level: | PG | Units/Credits | 6 UOC |
| Course Name: | Well Drilling Operations |       |          |        |    |               |       |

Course Convenor: Prof Sheik Rahman

Contact Details

given an in-depth view of the physical processes involved in drilling oil and gas wells, both on-shore and off-shore.

## 2.2. Learning Outcomes

By the end of this course students will:

1. learn the functions and roles of key drilling equipment and apparatus.
2. be given an in-depth view of the physical processes involved in drilling oil and gas wells, both on-shore and off-shore.
3. learn to select appropriate drilling rig components & equipment as to optimize costs for a given drilling operation (onshore or offshore).

## 2.3. Graduate Attributes

Student please view the link to the [UNSW Graduate Attributes](#).

## 3. REFERENCE RESOURCES

### 3.1. Reference Materials

Support material for this course including, whenever available, copies of lecture notes, recommended readings, etc. can be found on Moodle.

The lecture note may be viewed and downloaded from the UNSW-Moodle <http://moodle.telt.unsw.edu.au/>.

### 3.2. References

Followings are the recommended books for this course.

- x Drilling Equipment & Operations Course Notes – UNSW Australia
- x Applied Drilling Engineering AT Bourgoyne Jr, ME Chenevert, KK Millheim and FS Young Jr. SPE

### 3.4. ~~References~~ ~~References~~

There are numerous articles / information sources on reservoir engineering on the web. Many of them are sound, but many are either very lightweight or contain errors. Be very careful in your choice of web sources. Remember, UNSW librarians are usually happy to help you locate articles or make suggestions regarding possible material to help you in your academic work. You can also access basic online help at <http://www.library.unsw.edu.au/>

### 3.5. ~~Review~~ ~~Review~~

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|---------|----|--|
| 1       | Le | <ul style="list-style-type: none"> <li>x Course introduction and expectations</li> <li>x Power System                             <ul style="list-style-type: none"> <li>o Describe the power requirements for different equipment on a typical land or offshore drilling rig.</li> <li>o Identify the modes of power generation.</li> <li>o Understand the different means of power transmission.</li> <li>o Plan &amp; select an optimum (diesel) engine-generator system for a specific drilling operation.</li> </ul> </li> </ul>                |
| 2       | Le | <ul style="list-style-type: none"> <li>x Circulation System                             <ul style="list-style-type: none"> <li>o Identify &amp; explain the principal components of a typical mud circulation system: mixing equipment, pits, pumps, mud cleaners etc.</li> <li>o Estimate the volume of mud required for a specific drilling operation.</li> <li>o Determine the power requirements for the circulation of mud.</li> <li>o Understand the different mud cleaning equipment &amp; their operating principles.</li> </ul> </li> </ul> |







## 5. COURSE ASSESSMENT

### 5.1. Assignment

| Assessment | Date / Week  | Weight         | Assessment | Learning Objectives |
|------------|--|----------------|------------|---------------------|
| 1          | End of Week 3<br>End of Week 5<br>End of Week 7<br>End of Week 9 | 4%<br>(4% x 4) | Assign     | 1, 2, 3             |
| 2          | Week 6   | 14%            | Mid Exam   | 1, 2, 3             |
| 3          |  | 20%            | Lab        | 1, 2, 3             |
| 4          |  | 50%            | Final Exam | 1, 2, 3             |

#### Assessment of Lab part

| Assessment | Date / Week   | Weight             | Assessment | Learning Objectives |
|------------|---|--------------------|------------|---------------------|
| 1          | End of Week 4<br>End of Week 6<br>End of Week 8<br>End of Week 10 | 50%<br>(12.5% x 4) | Lab Assign | 1, 2, 3             |
| 2          | Weeks 1-10  | 50%                | Class Quiz | 1, 2, 3             |

Assignments related details/submission-box will be available online through Moodle. Access to the Moodle site is via the Moodle icon on the MyUNSW homepage.

## 6. ASSESSMENT CRITERIA

The assessment criteria provides a framework for you to assess your own work before formally submitting it.





special consideration application, no later than one week from submission.

More details on special consideration can be found at: [www.student.unsw.edu.au/special-consideration](http://www.student.unsw.edu.au/special-consideration)

#### 7.8. ~~C~~ ~~R~~ ~~S~~

For details on UNSW assessment policy, please visit: [www.student.unsw.edu.au/assessment](http://www.student.unsw.edu.au/assessment)

In some instances your final course result may be withheld and not released on the UNSW planned date. This is indicated by a course grade result of either:

x WD – which usually ple

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At the end of each course, all students will have the opportunity to complete a course evaluation form. These anonymous surveys help us understand your views of the course, your lecturers and the course materials. We are continuously improving our courses based on student feedback, and your perspective is valuable.

Feedback is given via <https://student.unsw.edu.au/myexperience> and you will be notified when this is available for you to complete.

We also encourage all students to share any feedback they have any time during the course – if you have a concern, please contact us immediately.

